Remarks

Claims 1-22 remain pending. Claims 1-21 stand rejected, while claim 22 is allowed. Claim 1 is amended herein. The Applicant traverses the rejections and respectfully requests allowance of claims 1-22.

Claim Amendments

Claim 1 is amended as indicated above resulting in the following:

1. A method of generating a random number, comprising:
sampling data transmitted over a number of microprocessor buses at inputs of a number of multiple input shift registers (MISRs) coupled with the number of microprocessor buses;
generating values within the MISRs based on the sampled data;
retrieving the values from the number of MISRs; and
generating a random number which is based on the values retrieved from the number of MISRs.

Claim Rejection Under 35 U.S.C. § 112

Claims 1-21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particular point out and distinctly claim the subject matter which the Applicant regards as the invention. More specifically, the Office action indicates that claim 1 is indefinite because it is "unclear how the randomly sampling data on the microprocessor buses is related to the input data of the MISRs." (Page 2 of the Office action.)

In response, claim 1 is amended herein to indicate that data transmitted over a number of microprocessor buses is *sampled at inputs of a number of MISRs* coupled with the buses. Further, values are generated within the MISRs based on the sampled data, the values are retrieved from the MISRs, and a random number based on the values is generated. The Applicant thus contends that amended claim 1 sufficiently relates how the data on the buses is sampled at the inputs of the MISRs, and is thus definite. Further, the Applicant asserts that claims 2-21 are definite as well based on their dependence upon claim 1. Therefore, the Application respectfully requests withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, of claims 1-21.

Claim Rejection Under 35 U.S.C. § 101

Claims 1-21 also stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. (Page 3 of the Office action.) More specifically, the Office action alleges that these claims "cite a method of generating a random number *in accordance with a mathematical algorithm. In order for claims to be statutory, claims must either include a practical/physical application or a concrete, useful, and tangible result.* However, claims 1-21 merely disclose steps/components for generating a random number without further disclosing a practical/physical application or tangible result. *The claims 1-21 [preempt] every practical application.* Therefore, claims 1-21 are directed to non-statutory subject matter." (Page 3 of the Office action; emphasis supplied.) The Applicant respectfully disagrees, as the generation of the random number is not performed strictly in accordance with a mathematical algorithm, and the generation of a random number is itself a concrete, useful, and tangible result. Further, the Office action does not appear to raise the proper inquiry regarding preemption.

Claimed Random Number Generation Not Performed Strictly According to a Mathematical Algorithm, or Any of the 35 U.S.C. §101 Judicial Exceptions

Questions regarding patentable subject matter are often raised where computer-related process claims are concerned. According to the Examination Guidelines for Computer-Related Inventions (MPEP § 2106; hereinafter "the Guidelines"), an inquiry is made as to whether one of the 35 U.S.C. § 101 judicial exceptions to patentability (specifically, *abstract ideas* (such as a mathematical algorithm), *laws of nature*, and *natural phenomena.*) are being claimed. (MPEP § 2106(IV)(C).) If the claimed invention falls into one of these categories, the claimed invention may still be patentable if it covers a practical application of the exception by producing a useful, concrete, and tangible result. (MPEP § 2106(IV)(C)(2).) However, the method of claim 1 describes a method in which data transmitted over a number of microprocessor buses is sampled at inputs to a number of MISRs. Values generated with the MISRs based on the data are then retrieved, and a random number is generated based on those values. Thus, the random data samples, and hence the values retrieved from the MISRs, are not based upon, and in fact *cannot be duplicated by,* the use of something as deterministic as a purely mathematical formula, which would itself reduce the randomness of the number being generated. Instead, *interaction between*

electronic hardware or apparatuses (i.e., the microprocessor buses and the MISRs) is involved. Thus, claim 1 is not a process that merely manipulates an abstract idea or performs a purely mathematical algorithm. Further, the Applicant respectfully asserts that claims 1-21, by virtue of claiming random number generation, do not claim a law of nature or a natural phenomenon, neither of which apply to random number generation. Thus, the Applicant contends that claims 1-21 do not involve one of the 35 U.S.C. § 101 judicial exceptions, and thus represent statutory subject matter under 35 U.S.C. § 101. Such indication is respectfully requested.

Random Number Generation is Itself a Practical Application in the Technological Arts

Further, the Guidelines indicate that for a claim covering an abstract idea, law of nature, or natural phenomenon, the claimed process must be limited to a *"practical application,"* which may be shown by *producing a useful, tangible, and concrete result.* (MPEP § 2106(IV)(C)(2).) The Applicant asserts that even if the generation of a random number is covered by one of the 35 U.S.C. § 101 judicial exceptions (which it is not, as described above), random number generation is itself a practical application in the technological arts as discussed under the Guidelines. Numbers that are as close to being truly random as possible have a wide applicability in many technological arts, such as cryptography, electronic gaming and gambling, and thus enable those arts. (See, for example, paragraphs [0003] and [0007] of the present application.) Moreover, numerous previously-issued U.S. patents (e.g., U.S. Patent Nos. 7,085,791; 7,080,106; 7,028,059 and 7,020,283) specifically claim methods of generating random numbers without claiming an additional application. The presence of so much technology in the area of random number generation begs the question that if the generation of a random number was not itself a practical application in the technological arts, why are so many individuals interested in new and better ways of generating such a number? Evidently, such individuals find random number generation to be specific, substantial, and credible for their own particular needs, and thus "useful" under 35 U.S.C. § 101. (See MPEP § 2107.)

The generation of random numbers is also "tangible," which the Guidelines define as the opposite of "abstract." In other words, a tangible result is a real-world result. (MPEP § 2106(IV)(C)(2).) The Applicant respectfully contends that the generation of a random number that is useful in and of itself as an input for a variety of tasks, such as those listed is above, is itself a real-world result, and is thus tangible.

With regard to "concreteness," the Guidelines indicate that a concrete result should be repeatable or predictable. Within the environment of random number generation, the actual number being generated provides the greatest benefit by being random or unpredictable. However, the subject of matter of claims 1-21 is capable of *producing a random number* repeatedly and reliably, and thus represents a concrete result.

Due to the necessity of random number generation as a driving input into a wide array of technological applications, the Applicant asserts that the generation of the random number is itself a practical application, and produces a concrete, tangible, and useful result, as discussed under the Guidelines, and such indication is respectfully requested.

Claimed Random Number Generation Does Not Preempt an Abstract Idea, Law of Nature, or Natural Phenomenon

The Office action appears to indicate that the subject matter of claims 1-21 preempts all practical applications for random number generation. Respectfully, the Applicant contends that the Guidelines do not address whether practical applications are preempted, but whether the claimed subject matter preempts a 35 U.S.C. § 101 judicial exception, of which there are three, as described above: *an abstract idea, a law of nature, or a natural phenomenon.* (MPEP §§ 2106(IV)(A) and 2106(IV)(C)(3).) In this particular case, preemption of random number generation would involve attempting to *patent* all forms of random number generation, or the idea of random number generation itself. Claims 1-21 of the present application do not preempt the entirety of random number generation, but instead set forth a limited set of methods for performing random number generation. As a result, claim 1-21 do not constitute preemption of any abstract idea, law of nature, or natural phenomenon, and such indication is respectfully requested.

Thus, based on at least the foregoing reasons, the Applicant contends that claim 1, as well as claims 2-21 depending from claim 1, represent statutory subject matter under 35 U.S.C. § 101, and such indication is respectfully requested.

Allowed Claim

      The Office action indicates that claim 22 is allowed. (Page 3 of the Office action.) The Applicant respectfully acknowledges the allowance of claim 22, the patentability of which is not discussed further herein.

Conclusion

      Based on the above remarks, the Applicant respectfully requests allowance of claims 1-22.

      The Applicant believes no fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is authorized to charge Deposit Account No. 08-2025 accordingly.

                                 Respectfully submitted,

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/Kyle J. Way/

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